

CLAIMS

WHAT IS CLAIMED IS:

1. A cylindrical-shaped bearing for supporting a reciprocating shaft, comprising,

an inner peripheral surface for supporting thereon the reciprocating shaft, wherein the inner peripheral surface includes a first surface extending parallel to a central axis of the cylindrical-shaped bearing, and second and third tapered surfaces between which the first surface is arranged in a direction of the central axis and which are inclined with respect to the central axis in such a manner that diameters of the second and third tapered surfaces decrease gradually in respective axial directions away from respective axial ends of the inner peripheral surface toward the first surface.

2. A cylindrical-shaped bearing according to claim 1, wherein when an axial length of the first surface is P and an axial length of the inner peripheral surface as a total amount of the axial length of the first surface and axial lengths of the second and third tapered surfaces is W , a relationship between P and W satisfies a formula of $0.5/W \leq P/W \leq 1/3$.

3. A cylindrical-shaped bearing according to claim 1, wherein an angle between the central axis and each of the second and third tapered surfaces in a cross sectional view taken along an imaginary plane extending along the central axis is not less than 0.05 degree and not more than 5.0 degree.

4. A cylindrical-shaped bearing according to claim 1, wherein in a cross sectional view taken along an imaginary plane extending along the central axis, one of side surfaces of the second tapered surface and one of side surfaces of the third tapered surface opposed to each other through the central axis is parallel to each other.

5. A cylindrical-shaped bearing according to claim 4, wherein a distance between the ones of the side surfaces in a direction perpendicular to the ones of the side surfaces is not less than a diameter of the reciprocating shaft.

6. A cylindrical-shaped bearing according to claim 1, wherein in a cross sectional view taken along an imaginary plane extending along the central axis, a tangential line of one of side surfaces of the second tapered surface and a tangential line of one of side surfaces of the third tapered surface opposed to each other through the central axis is parallel to each other.

7. A cylindrical-shaped bearing according to claim 6, wherein a distance in a direction perpendicular to the tangential lines of the ones of the side surfaces parallel to each other between the tangential lines of the ones of the side surfaces is more than a diameter of the reciprocating shaft.